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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO.  |
|--|-------------|----------------------|---------------------|-------------------|
| 10/628,005   | 07/25/2003  | Dae-Kwang Jung       | 5000-1-357          | 4008              |
| 33942  | 7590        | 07/26/2005           | EXAMINER            |                   |
| CHA & REITER, LLC<br>210 ROUTE 4 EAST STE 103<br>PARAMUS, NJ 07652 |             |                      |                     | HUGHES, DEANDRA M |
|  |             | ART UNIT             |                     | PAPER NUMBER      |
|  |             | 3663                 |                     |                   |

DATE MAILED: 07/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |
|------------------------------|------------------------|---------------------|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |
|                              | 10/628,005             | JUNG ET AL.         |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |
|                              | Deandra M. Hughes      | 3663                |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 25 July 2003.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1 is/are rejected.
- 7) Claim(s) 2-13 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 25 July 2003 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date. _____.   |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____.                                   |

## DETAILED ACTION

### ***Claim Objections***

1. Claims 1-13 are objected to because of the minor informality of inconsistent spacing. Appropriate correction is required.

### ***Specification***

2. The specification is objected to because of the minor informality of inconsistent spacing. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Delavaux (US 5,646,762 published Jul. 8, 1997) in view of Harvey (US 5,212,711 published May 18, 1993).

Delavaux discloses:

- an optical circulator (fig. 3, #201) having a plurality of ports (A, B, C) for outputting light circulating in an optical waveguide loop;
- at least one optical amplifier (fig. 1, #7; col. 4, lines 19-20) disposed in the optical waveguide loop for amplifying light circulating in the loop;
- a laser light source (fig. 1, #223) coupled to the optical circulator via one of the plurality of ports to receive light circulating in the optical waveguide

loop and, in response, for outputting wavelength-locked light to the optical circulator; and,

Delavaux does not specifically disclose that the optical amplifier is a fiber amplifier. However, Harvey discloses the use of optical fiber amplifiers in a wavelength-locked Fabry-Perot laser (fig. 1, #15). It would have been obvious to one of ordinary skill (e.g., an optical engineer) in the art at the time the invention was made to use an erbium doped fiber amplifier, as is taught by Harvey, in a wavelength-locked Fabry-Perot laser for the advantage of amplification in the common-band of an optical communication system.

Further, Delavaux does not specifically disclose a splitter. However, Harvey teaches a splitter (fig. 1, #27) for splitting a portion of the light outputted from the circulator to the optical transmission link. It would have been obvious to one of ordinary skill (e.g., an optical engineer) in the art at the time the invention was made apply the splitter to the apparatus of Delavaux for the advantage of extracting light from the waveguide loop.

***Allowable Subject Matter***

5. Claims 2-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With regard to claim 2 and its dependent claims, the prior art does not teach or make obvious *a plurality of Fabry-Perot lasers coupled to receive the demultiplexed light and for outputting wavelength-locked light signals having self-seeded wavelengths in conjunction with the other features of the claim.*

With regard to claim 5 and its dependent claims, the prior art does not teach or make obvious *first and second amplifying optical fibers connected in series in the optical waveguide loop* in conjunction with the other features of the claim.

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cutler, Gambini, Hansen, Harvey, Kai, Liu, Mizrahi, Rakuljic, Shimizu; Tayebati, and Parviz disclose mode locked lasers.
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deandra M. Hughes whose telephone number is 571-272-6982. The examiner can normally be reached on M-F, 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Deandra M Hughes  
Examiner  
Art Unit 3663